WIRELESS CONSUMERS ALLIANCE INC.

DOCKET FILE COPY ORIGINAL

June 7, 1999

Ms. Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
12th Street Lobby, TW-A325
Washington, D.C. 20554

Re: Comments
CC Docket No. 94-102

Dear Ms. Salas:

Enclosed is an original and eleven copies of our Comments in response to the Commission's Public Notice, DA 99-1049, in the above referenced proceeding. Please distribute copies to each Commissioner and return one filed stamped copy to us in the enclosed, self addressed, stamped envelope. Thank you.

Sincerely,

Carl Hilliard

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	**CC Docket No. 94-102**
To Ensure Compatibility With	)	
Enhanced 911 Emergency Calling	)	
Systems	)	

COMMENTS OF THE WIRELESS CONSUMERS ALLIANCE, INC.

The Wireless Consumers Alliance, Inc. ("WCA") submits its Comments in response to the Commission's Public Notice, DA 99-1049 (released June 1, 1999) ("Notice") requesting comments concerning wireless E911 Phase II Automatic Location Identification ("ALI") requirements. Specifically, the Commission seeks comments concerning: (1) the adoption of standards for handset based ALI solutions, (2) roaming problems and handset turnover, and (3) methodologies for determining ALI accuracy.

Reference is made to WCA's Petition to modify 47 C.F.R. Sections 20.18(e) & (f) ("Petition"), which was submitted on the same day that the Notice was released. This Petition addresses many of the issues raised by the Notice. A copy of the Petition is attached hereto and incorporated herein by this reference.

As a general proposition, WCA does not believe that the Commission can statutorily defer to the market place when it comes to setting standards to ensure the public's safety. The result of dissonant solutions is loss of life, increased effects of injury and damage to property. The record clearly shows that handset solutions present a more accurate, less expensive means of ALI than the network based solutions. The two alternatives are not comparable or compatible. The Commission should not hesitate to move on when a solution that looked promising at the outset proves to be too costly and too ineffective to do the job. That is the case here with network based solutions.

STANDARDS FOR HANDSET BASED ALI SOLUTIONS

There are three absolute prerequisites in setting standards for handset based solutions. First, the carriers must be required to send enhanced GPS satellite information ("eGPS") to the handset and be transparent to the transmission of GPS information from the handset. Second, the Commission must require that all GPS information from the handset be sent MF over the voice channel inband for delivery to the PSAP. The objective should be to standardize the decoder equipment so that the PSAPs will be able to handle GPS information from any GPS handset without the need to purchase different types of decoder equipment. Third, the Commission must require that all handset manufacturers include GPS capability in all handsets manufactured after a certain date (within 6 months from the effective date of the Commission's order).

It is a rich irony to find suggestions that carriers will be in compliance with the Commission's ALI rules "if they deploy specific levels of ALI-capable handsets" when, in this same proceeding, the Cellular Telecommunications Industry Association ("CTIA")

has filed information which says that the carriers do not control the handset market. See for example, the attached pie chart which CTIA filed as part of its April 20, 1999, ex parte presentation, purporting to show that carriers only control 24 percent of the handset market.. In fact, the tying arrangement between handsets and service that has been in existence since 1991 has outlived its usefulness and, in our judgment, has become an unlawful restraint upon the sale of handsets. The point is, the carriers have disaffirmed any control over the handset market and no rational reason exists for them to exercise such control. Therefore, the imposition of a requirement that depends upon such carrier market control would be disingenuous and ineffective.

In our opinion, a carrier should be deemed to be 100 percent compliant if it provides eGPS satellite information to and from the handsets on or before October 1, 2001. The notion that the rejection of network based solutions will deprive "the availability of ALI to all Americans" is mere bombast because the cost and inefficiency of these solutions is a practical barrier to their wide spread deployment and use. The reality is that more Americans will have accurate ALI (and at a reasonable cost) if the Commission acts with alacrity and courage in adopting the rule change suggested in the Petition.

ROAMING PROBLEMS AND HANDSET TURNOVER

A cacophony of incompatible systems is not in the public interest. A GPS equipped handset must be able to roam into any wireless system and be able to deliver ALI information that is recognizable by any PSAP. A solution that is not compatible with all GPS handsets is simply not acceptable.

There will be approximately 151,720,000 new handsets manufactured from the end of this year until the end of the year 2004. The already low price of ALI handset chips will decline even further with increased production. This means that there is little cost associated with the addition of GPS capability to handsets. This should lead to the early deployment of this technology.

Ex parte filings by Integrated Data Communications state that they will be able to retrofit handsets to have GPS capability by inserts or specially equipped batteries. Various service vendors have indicated that they would be interested in retrofitting handsets to receive and send GPS information. The installation of a chip on a handset bus and associated software modification indicates that such upgrades will be available at a modest price. Thus, as a practical matter, consumers have a much better chance of realizing the benefits of ALI in emergency situations if the handset solution is adopted by the Commission.

METHODOLOGIES FOR DETERMINING ALI ACCURACY

Based on the Seattle, Washington, test results filed by Integrated Data Communications, we believe that the Commission should require ALI handsets to provide ALI with 50-meter accuracy and 85 percent reliability as determined using CEP.

CONCLUSION

The public need for the delivery of accurate ALI information in 911 situations transcends the commercial interests of the various parties to this proceeding. It is time to relieve the carriers and the PSAPs of the burden of trying to deploy network based

systems that are too expensive, too cumbersome and too inefficient to satisfy the public need for ALI in an emergency. At the end of the day, it is the consumer who will pay for and receive the benefit of ALI systems. On behalf of those consumers, we ask the Commission to move now to adopt the standards which will mandate the deployment of cost effective and more accurate handset based GPS solutions. Specifically, we ask the Commission to adopt the rule changes proposed in the Petition.

Respectfully Submitted,
Wireless Consumers Alliance, Inc.

By: 

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To the Commission:

PETITION OF THE WIRELESS CONSUMERS ALLIANCE, INC. TO MODIFY 47 C.F.R. SECTIONS 20.18(e) & (f)

In its Report and Order released on July 26, 1996, the Commission amended Part 20 of Title 47 of the Code of Federal Regulations, Section 20.18(e) to read as follows:

> "As of [October 1, 2001], licensees subject to this section must provide to the designated Public Service Answering Point the location of a 911 call by longitude and latitude within a radius of 125 meters using root mean square techniques."

Section 20.18(f) goes on to provide that:

> "The requirements set forth in paragraphs (d) and (e) of this section shall be applicable only if the administrator of the designated Public Service Answering Point has requested the services required under those paragraphs and is capable of receiving and utilizing the data elements associated with the service, and a mechanism for recovering the costs of the service is in place."

On December 24, 1998, the Commission's Wireless Telecommunications Bureau released a public notice that invited applications for waivers of Section 20.18(e) to permit the use of handset-based location solutions which use Global Positioning System

("GPS") technologies. A large number of waivers have been filed in response to that notice.

The Wireless Consumers Alliance ("WCA") respectfully submits that the evidence in the record now shows that the network based solutions envisioned by the Commission in adopting Section 20.18(e) are so costly and inefficient that they will not be widely (if at all) deployed.

Accordingly, the WCA requests that the Commission

(1) Mandate the installation of enhanced GPS ("eGPS") capability in all newly manufactured handsets,

(2) Require all wireless carriers to provide eGPS service to consumers, and

(3) Delete the requirement in Section 20.18(f) that the Public Answering Point ("PSAP") must request such service.

BACKGROUND

This rulemaking started with the issuance of a Notice of Proposed Rulemaking on October 19, 1994. At that time, the Commission said that "the most crucial E911 feature, the ability to report the caller's location to the PSAP," should be implemented over the next five years. On February 12, 1996, a "Consensus Agreement" was filed with the Commission by the Cellular Telecommunications Industry Association and three public safety organizations (NENA, APCO & NASNA) which proposed the adoption of the above referenced rules. These rules envisioned a network based Automatic Location Identification ("ALI") solution.[1]

[1] The Consensus agreement proposed, and the Commission adopted, a two phased step toward the Commission's objective. The first step, called Phase I, required the delivery of sector and calling party number information to the PSAP. Although Phase I has been in effect for over a year, only 2 percent of all

It was said that carriers would be anxious to install ALI equipment in order to gain a competitive advantage and to secure income from ancillary services such as vehicle location, etc. This has not proven to be the case. Instead, there has been a dispute between the public safety community and carriers over who would select the ALI equipment and how payment for the system would be accomplished. Carriers have uniformly resisted the imposition of any state mandated fees on users to pay for this equipment. At the same time, it is clear that the States are reluctant (if not unwilling) to pay for the substantial construction costs of these network based facilities from general funds. A privately funded test of the TruePosition network based ALI system is being conducted in Houston, Texas. According to an April 26, 1999, article in Wireless Week this system "has 'a major problem . . . on the edges of the cell sites.'" As a result, Wireless Week reports that one of the participants in the test, Houston Cellular, was threatening to withdraw. The following week, Wireless Week reported that a breach of contract suit has now been filed to prevent Houston Cellular from withdrawing from the test.

THE SHORTCOMINGS OF NETWORK BASED SOLUTIONS

A network based solution is dependent upon triangulation and measurement of the time of travel of the signal from the caller's handset to the cell site. WCA has conducted a number of tests in connection with its proposal that 911 calls be connected over the best cellular channel available from either carrier. One of these tests concerned the Lechuga accident where the call was received by a single 360° sector cell located approximately 50 miles away near the border of that carrier's service area. In this instance, the only

PSAPs have installed the equipment necessary to use this information. The recent report of the Los Angeles County E9-1-1 Wireless Trial shows that the Phase I information is of little value.

location information that might have been provided using the network solution would have been that Lechuga was located 50 miles away with no direction information. The same single cell situation existed in the Blomme case, which was also investigated by WCA and reported to the Commission. This kind of ALI information is clearly inadequate.

It is now apparent that the ALI network solutions which have been developed are only effective when the calling party can be triangulated from three cell sites. When a signal from the calling party is received by two cell sites, two different disparate locations are reported. As noted above, in the instance where only one cell site is reached, the only information provided is the antenna sector which received the call and the distance of the caller from the cell site.

THE COST OF NETWORK BASED SOLUTIONS

Although there is no published price list that we are aware of for network based equipment, Wireless Week reports that the cost to deploy the TruePosition system is $30,000.00 per cell. We have heard prices for network based solutions ranging from $30,000.00 to $50,000.00 per cell plus 21 to 31 cents per subscriber per month. In addition, the cost to equip a PSAP to receive network based information is estimated to be from $150,000 to $300,000.

THE DEVELOPMENT OF HANDSET BASED SOLUTIONS

Since the adoption of Section 20.18(e), several manufacturers have developed location services based on Global Positioning System (GPS) technologies. These systems have shown the ability to deliver very accurate location information from a wide range of environments, such as inside of cars and building structures. Unlike network

based systems, the accuracy of GPS information is not dependent on the caller's signal being received by more than one cell site. In the Blomme situation the GPS solution would have quickly delivered accurate, live saving information.

THE COST OF HANDSET BASED SOLUTIONS

All cell sites are already equipped with GPS receivers which are used to synchronize the transmitters and receivers to the very accurate time base of the GPS system. It would be a trivial exercise to add capacity to this GPS equipment to enable it to send the appropriate GPS satellite information as part of the overhead message to a GPS equipped handset which could then respond with accurate latitude and longitude information concerning its location. The information from the handset should be included in the initial part of the 911 call and passed as part of the data to the PSAP. We understand that the equipment cost necessary to provide this enhanced GPS information is from $80,000 to $100,000 per wireless system.

A handset can be equipped with GPS capability by the addition of a chip to the bus. TI is currently offering such a chip for sale for $3 to $4 and the price is expected to drop to under a $1. SnapTrack and Motorola have already entered into an agreement to incorporate SnapTrack's GPS technology in Motorola's wireless chip sets. Several vendors are discussing the feasibility of retrofitting existing handsets to add eGPS capability.

Finally, a PSAP can be equipped to receive eGPS information for under $50,000

POLICY CONSIDERATIONS

The Commission initially set a target date of October of this year for the delivery of ALI information to PSAPs. In the meantime, the number of wireless 911 calls has

grown to as much as 30 percent of all emergency 911 calls. The inability to locate some callers has resulted in loss of life, lessened the chances of recovery from injury and wasted resources of emergency personnel, who have spent up to an hour or more (Blomme) to locate the wireless caller.

Commission reliance on a negotiated solution has been misplaced. The carriers clearly do not see a competitive advantage in the deployment of network based ALI or a market for ancillary concierge services which is sufficient to support the substantial investment required for network based systems. The public safety community is just as clearly unable to fund network based ALI systems without recourse to a fee on wireless subscribers, which fee the carriers vehemently oppose. The hope of funding from outside sources is fading as the disappointing results of the Houston TruePosition test become known. In sum, as a practical matter, we are not going to see the deployment of ALI network based services on the wide scale required by the public interest.

We recognize that it is unpopular to advocate the abandonment of an inadequate technology. It is more correct to say that the public will benefit from the "competition" between network and hand set based technologies. However, this is not the case. It is not in the public interest to have a ALI network based user roam into the service area of a handset based ALI system with the expectation that he/she can be located in an emergency. It is not in the public interest to have an ongoing debate between PSAP and carrier over who has the right to select which ALI system will be used. It is not in the public interest to have a tug of war over how an expensive network based ALI system will be paid for. It is not in the public interest to have a location system that will not provide precise information unless three cell sites receive the signal. It is in the public

interest to move forward with the deployment of a GPS solution which can be accomplished quickly and at relatively little expense.

Finally, we must express some privacy concerns. When 911 is dialed, the location information should be sent. In all other situations, the location of the consumer is the business of the consumer. This information must not be collected or used for any purpose which is not authorized or approved by the consumer.

CONCLUSION

One way or another, consumers are going to pay for the life saving benefits of ALI. To ask consumers to pay an exorbitant amount for an inadequate network based ALI system is not in the public interest. Especially when, for a trivial expense, carriers can supply eGPS information to and from handsets equipped to use this information. The delivery of this information should be mandated and transparent to any handset. The cost of eGPS is so small that it makes no sense to mandate a cost recovery mechanism. Carriers should simply be required to allocate this cost among their customers as they see fit. All carriers should be required to offer eGPS on or before October 1, 2001.

The Commission should also require handset equipment manufacturers to include eGPS capability in all handsets manufactured on and after October 1, 2001.

Accordingly we recommend that Section 20.18(e) be amended to read as follows:

> As of [October 1, 2001], licensees subject to this section must provide ~~to the designated Public Service Answering Point the location of a 911 call by longitude and latitude within a radius of 125 meters using root mean square techniques~~ a continuously updated list of GPS satellites in view from the cell site as part of the overhead message to handsets and must deliver any GPS information received from the handset as part of the call.

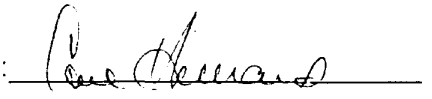
We suggest that Section 20.18(f) be amended by the deletion of the reference to

subsection (e). And, we recommend the adoption of a new section which shall read as follows:

> As of October 1, 2001, all handsets shall be equipped with the capability to receive and send GPS information which shall show the latitude and longitude of the caller. Such information shall be sent whenever a call to 911 is placed and only sent in all other instances with the permission of the caller.

Respectfully Submitted,

Wireless Consumers Alliance, Inc.

By: 

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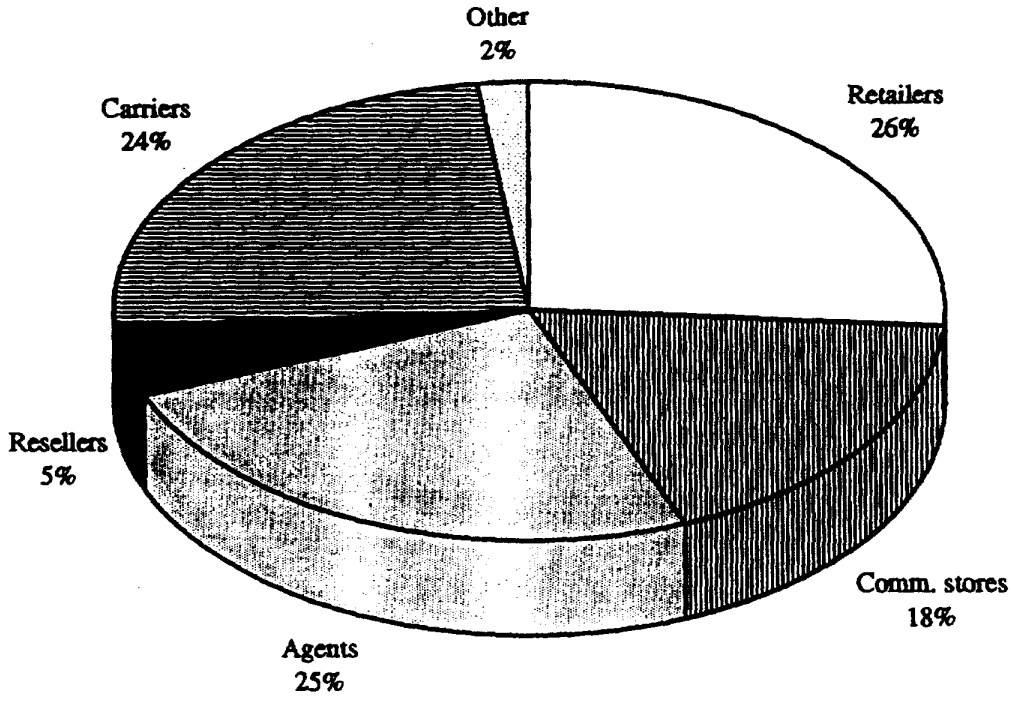
June 1, 1999

Figure 6.2 Cellular Distribution Marketshare, 1997



Source: The Strategis Group

CERTIFICATE OF SERVICE

I, Ed DeJesus, hereby certify that on this 8th day of June, 1999, copies of the foregoing Comments of the Wireless Consumers Alliance, Inc. in CC Docket No. 94-102 were served by mail on the following:

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June 8, 1999

Ed DeJesus